Please type a plus sign (+) inside this box → [+]

PTO/SB/05 (4/98)

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	WEINR40062
First Inventor or Application Identifier	Weinstein
Title	ANTIHISTAMINE/DECONGESTANT REGIMENS FOR TREATING RHINITIS
Express Mail Label No.	EM215484209US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: **Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231**

1. [X] * Fee Transmittal Form *(e.g., PTO/SB/17)* *(Submit an original, and a duplicate for fee processing)*
2. [X] Specification [*Total Pages* 24] *(preferred arrangement set forth below)*
   - Descriptive title of the Invention
   - Cross References to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to Microfiche Appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
3. [X] Drawing(s) *(35 U.S.C. 113)* [*Total Sheets* 1]
4. Oath or Declaration [*Total Pages* 3]
   - a. [X] Newly executed (original or copy)
   - b. [ ] Copy from a prior application (37 C.F.R. § 1.63(d)) *(for continuation/divisional with Box 17 completed)*
     - i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33 (b).

** NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).*

5. [ ] Microfiche Computer Program *(Appendix)*
6. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   - a. [ ] Computer Readable Copy
   - b. [ ] Paper Copy (identical to computer copy)
   - c. [ ] Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. [X] Assignment Papers (cover sheet & documents(s))
8. [ ] 37 C.F.R.§3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
9. [ ] English Translation Document *(if applicable)*
10. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
11. [ ] Preliminary Amendment
12. [X] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
13. [X] * Small Entity Statement(s) *(PTO/SB/09-12)* [ ] Statement filed in prior application, Status still proper and desired
14. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
15. [ ] Other: .....

16. **If a CONTINUING APPLICATION,** *check appropriate box, and supply the requisite information below and in a preliminary amendment:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No: _____/_____

Prior application information: Examiner _____ *Group / Art Unit:* _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

[X] *Customer Number or Bar Code Label* (Insert Customer No. or Attach bar code label here) 021587 PATENT AND TRADEMARK OFFICE *or* [ ] *Correspondence address below*

Name					
Address					
City		*State*		*Zip Code*	
Country		*Telephone*		*Fax*	

Name (Print/Type)	Steven K. Martin	*Registration No. (Attorney/Agent)*	38,542
Signature	Steven K. Martin	*Date*	10/29/98

Form generated by Morse & Altman

PTO/SB/17 (1/98)

FEE TRANSMITTAL

Patent fees are subject to annual revision on October 1.
These are the fees effective October 1, 1997.
Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12.

TOTAL AMOUNT OF PAYMENT ($) 611

Complete if Known	
Application Number	
Filing Date	
First Named Inventor	Weinstein
Examiner Name	
Group / Art Unit	
Attorney Docket Number	WEINR40062

METHOD OF PAYMENT (check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number: 13-4630

Deposit Account Name: Morse & Altman

☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17 ☐ Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance

2. ☒ **Payment Enclosed:**

☒ Check ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
101	790	201	395	Utility filing fee	395
106	330	206	165	Design filing fee	
107	540	207	270	Plant filing fee	
108	790	208	395	Reissue filing fee	
114	150	214	75	Provisional filing fee	

SUBTOTAL (1) ($) 395

2. EXTRA CLAIM FEES

	Extra Claims		Fee from below		Fee Paid
Total Claims	36 -20** =	16	X 11	=	176
Independent Claims	2 - 3** =	0	X 41	=	0
Multiple Dependent				=	0

***or number previously paid, if greater; For Reissues, see below*

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
103	22	203	11	Claims in excess of 20
102	82	202	41	Independent claims in excess of 3
104	270	204	135	Multiple dependent claim, if not paid
109	82	209	41	** Reissue independent claims over original patent
110	22	210	11	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 176

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	400	216	200	Extension for reply within second month	
117	950	217	475	Extension for reply within third month	
118	1,510	218	755	Extension for reply within fourth month	
128	2,060	228	1,030	Extension for reply within fifth month	
119	310	218	155	Notice of Appeal	
120	310	220	155	Filing a brief in support of an appeal	
121	270	221	135	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,320	241	660	Petition to revive - unintentional	
142	1,320	242	660	Utility issue fee (or reissue)	
143	450	243	225	Design issue fee	
144	670	244	335	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Stmt	
581	40	581	40	Recording each patent assignment per property (times number of properties)	40
146	790	246	395	Filing a submission after final rejection (37 CFR 1.129(a))	
149	790	249	395	For each additional invention to be examined (37 CFR 1.129(b))	
Other fee (specify)					
Other fee (specify)					

* Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 40

SUBMITTED BY				Complete (if applicable)	
Typed or Printed Name	Steven K. Martin			Reg. Number	38,542
Signature	Steven K. Martin	Date	10/29/98	Deposit Account User ID	

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PTO/SB/10 (12-97)

STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) & 1.27(c))–SMALL BUSINESS CONCERN	Docket Number (Optional) WEINR40062

Applicant, Patentee, or Identifier: Weinstein

Application or Patent No.: ______

Filed or Issued: ______

Title: ANTIHISTAMINE/DECONGESTANT REGIMENS FOR TREATING RHINITIS

I hereby declare that I am

☐ the owner of the small business concern identified below:

☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF SMALL BUSINESS CONCERN J-Med Pharmaceuticals, Inc.

ADDRESS OF SMALL BUSINESS CONCERN 229 Berkeley Street, Boston, MA 02116

I hereby state that the above identified small business concern qualifies as a small business concern as defined in 13 CFR part 121 for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For the purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time, or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention describe in:

☒ the specification filed herewith with title as listed above.

☐ the application identified above.

☐ the patent identified above.

If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate statements as to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization having any rights in the invention is listed below:

☒ no such person, concern, or organization exists.

☐ each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

NAME OF PERSON SIGNING Robert E. Weinstein

TITLE OF PERSON IF OTHER THAN OWNER Chief Executive Officer

ADDRESS OF PERSON SIGNING 229 Berkeley Street, Boston, MA 02116

SIGNATURE [signature] DATE Oct 28, 1998

Form generated by Morse & Altman

Attorney Docket: WEINR40062

ANTIHISTAMINE/DECONGESTANT REGIMENS FOR TREATING RHINITIS

BACKGROUND OF THE INVENTION

Related Applications

The applicants wishes to claim the benefit of U.S. Provisional Patent Application No. 60/063,710, dated October 29, 1997, for REGIMEN FOR TREATING RHINITIS in the names of Robert E. Weinstein and Allan M. Weinstein.

Field of the Invention

The present invention relates to rhinitis treatment regimens, more particularly, to prepackaged therapeutic regimens for the symptomatic treatment of rhinitis which combine decongestant and antihistamine medications in a manner so as to avoid sedation when sedation is undesired and to avoid stimulation when stimulation is undesired.

The Prior Art

Rhinitis refers to an inflammatory disorder of the nasal passages. The symptoms of rhinitis typically consist of sneezing, rhinorrhea, nasal congestion, and increased nasal secretions. Failure of treatment of rhinitis may lead to other disorders including infection of the sinuses, ears and lower respiratory tract.

Two types of oral medication are commonly used to treat rhinitis: decongestants and antihistamines. Decongestants and antihistamines differ in mechanism of action, therapeutic effects, and side effects. It is common

practice to combine the use of these two to bring about more complete symptom relief of rhinitis than with either entity alone.

Decongestants commonly used to treat rhinitis include the adrenaline-like agents pseudoephedrine and phenylpropanolamine. These agents act to constrict vessels in the nasal mucus membranes and thereby decrease tissue swelling and nasal congestion. Decongestants are found to be better than antihistamines for restoring the patency of congested nasal airways. Like adrenaline, nasal decongestants are stimulatory and produce side effects which may be tolerated during the day, and even be considered desirable to counter fatigue which is known to accompany other symptoms of rhinitis. Decongestants, however, may produce nervousness, restlessness, and insomnia if taken at night. This can be a source of confusion for individuals who mistakenly attribute their inability to sleep to the malaise accompanying rhinitis rather than to the decongestant medication.

Histamine is a mediator released from cells which line the walls of the nasal mucous membranes (mast cells). When released, histamine is known to bind to local receptors and thereby cause sneezing, nasal itching, swelling of the nasal membranes, and increased nasal secretions. Antihistamines relieve these effects, albeit by a different mechanism than decongestants. Antihistamines block the binding of

histamine to histamine receptors in the nasal membranes. Antihistamines preemptively bind to histamine receptors and are effective only if given prior to histamine release (once histamine is released and binds to the receptor, it is too late). Although individuals typically take antihistamines after symptoms occur, it is more desirable to dose antihistamine so as to effect therapeutic activity in anticipation of the peak times of histamine release. Individuals with rhinitis commonly experience peak symptoms in the morning hours on awakening, a time concomitant with peak histamine release and coinciding with peak exposure to airborne allergens which stimulate histamine release in sensitive individuals.

To improve upon the sedation of such older antihistamines, newer antihistamines with little or no sedation have more recently been developed.

The combining of decongestants and antihistamines utilizes two mechanistic approaches, and has been shown to offer more complete relief of rhinitis symptoms than therapy with either component alone. Consequently, many products have been formulated so that their dosage units contain both. While individuals are known to vary in their susceptibility to side effects, the incorporation of decongestant and sedating antihistamine into a single dosage unit represents an attempt to balance stimulation and sedation of the components. Consequently, some individuals

experience irritability and/or sedation with these combinations. Examples of commercial formulations containing decongestant and sedating antihistamine include:

1. CHLOR-TRIMETON® 4 hour Allergy/Decongestant which contains 4 mg of chlorpheniramine (sedating antihistamine) and 60 mg pseudoephedrine sulfate (stimulating decongestant), and which is recommended to be taken every 4 to 6 hours (1/2 this dosage for children 6 to under 12);

2. CHLOR-TRIMETON® 12 hour Allergy/Decongestant which contains 8 mg of chlorpheniramine (sedating antihistamine) and 120 mg pseudoephedrine sulfate (stimulating decongestant), and which is recommended to be taken every 12 hours (adults and children over 12 years of age only);

3. BROMFED® Tablets which contains 4 mg of brompheniramine (sedating antihistamine) and 60 mg pseudoephedrine sulfate (stimulating decongestant), and which is recommended to be taken every 4 to 6 hours (1/2 this dosage for children 6 to under 12);

4. BROMFED® Capsules which contains 12 mg of brompheniramine (sedating antihistamine) and 120 mg pseudoephedrine sulfate (stimulating decongestant), and which is recommended to be taken every 12 hours (adults and children over 12 years of age only);

5. BENADRYL® Allergy Decongestant Tablets which contains 25 mg of diphenhydramine hydrochloride (sedating antihistamine) and 60 mg pseudoephedrine sulfate

(stimulating decongestant), and which is recommended to be taken by adults and children over 12 years of age every 4 to 6 hours, not to exceed 4 tablets in 24 hours; and

6. TAVIST-D® Tablets which contains 1.34 mg clemastine fumarate (sedating antihistamine) and 75 mg phenylpropanolamine hydrochloride (stimulating decongestant), and which is recommended to be taken every 12 hours (adults and children over 12 years of age only).

More recently, formulations have been commercialized which incorporate both a decongestant and a non-sedating antihistamine into a single dosage unit. While such formulations offer the advantage in being non-sedating, such combinations might be expected to provoke a greater incidence of nighttime irritability and insomnia because the stimulating side effects of the decongestant are not attenuated by concomitant use of sedating antihistamine. Indeed, a 25% incidence of insomnia has been disclosed among users of the combination of non-sedating antihistamine terfenadine and pseudoephedrine. Examples of such formulations include:

1. SELDANE-D® Extended-Release Tablets which contains 60 mg terfenadine (non-sedating antihistamine) and 120 mg pseudoephedrine hydrochloride (stimulating decongestant), and which is recommended to be taken every 12 hours (adults and children over 12 years of age);

2. CLARITIN-D® 24 HOUR Extended-Release Tablets which contains 10 mg loratidine (antihistamine) and 240 mg pseudoephedrine hydrochloride (decongestant) and, which is recommended to be taken every 24 hours (adults and children over 12 years of age); and

3. ALLEGRA-D™ which contains 60 mg fexofenadine (non-sedating antihistamine) and 120 mg pseudoephedrine hydrochloride (stimulating decongestant), and which is recommended to be taken every 12 hours (adults and children over 12 years of age).

U.S. Patent # 4,295,567, issued to Knudsen, teaches a regimen to avoid sedation from antihistamines when sedation is undesired. The Knudsen patent therefore does not apply to antihistamines which are not sedating. In accordance with Knudsen, prepackaged regimens for treating the symptoms of rhinitis have been commercialized, and employ decongestant for daytime and decongestant plus sedating antihistamine for night. Examples in accordance with Knudsen include:

1. DAYTIME & NIGHTTIME ACTIFED ALLERGY® which contains 30 mg pseudoephedrine (decongestant) in the daytime formulation, and 30 mg pseudoephedrine (decongestant) and 25 mg diphenhydramine (antihistamine) in the nighttime formulation; and

2. CONTAC DAY & NIGHT ALLERGY/SINUS® which contains 60 mg pseudoephedrine (decongestant) and 650 mg

acetaminophen (analgesic) in the daytime formulation, and 60 mg pseudoephedrine (decongestant), 50 mg diphenhydramine (antihistamine), and 650 mg acetaminophen (analgesic) in the nighttime formulation.

Regimens have also been commercialized which incorporate a decongestant for daytime and not for nighttime. An example of one such prepackaged regimen is SYN-RX™, which contains 60 mg pseudoephedrine HCL and 600 mg Guaifenesin in the day formulation, and 600 mg Guaifenesin in the nighttime formulation. These regimens avoid stimulation from decongestant at night, however lack antihistamine. Further, they neither contain medication which would be effective for rhinitis symptoms at night, nor anticipate peak symptoms of rhinitis in the morning hours on awakening.

While the problem of sedation with combined decongestant and sedating antihistamine treatment is addressed by Knudsen, the problem of nighttime irritability and insomnia is not. Indeed, all commercialized decongestant and antihistamine regimens according to Knudsen have the potential to cause irritability and insomnia at night.

Similarly, while the problem of sedation with combined decongestant and sedating antihistamine treatment are addressed in single entity combinations which employ decongestants and non-sedating antihistamines, the problem

of nighttime irritability and insomnia is not. Formulations which incorporate decongestant and non-sedating antihistamine into a single dosage unit are yet more likely to produce irritability and insomnia at night than formulations with sedating antihistamine.

It is well known that individuals with rhinitis utilize antihistamines and decongestants hundreds of millions of times a year. It is not uncommon for inappropriate choices to result in symptomatic worsening rather than improvement. Individuals often use sedating medication unknowingly or inappropriately. Decongestants taken at night not only produce insomnia in a sizable portion of users, but also daytime irritability, fatigue, and malaise from lack of rest. Users are known to mistakenly ascribe such symptoms to rhinitis rather than to medication. Professional as well as consumer confusion is widely encountered with these medications and unnecessarily negative consequences occur both by self-selection and prescription. There is a present need for preformulated regimens which advantageously use antihistamines and decongestants for rhinitis in a manner to circumvent this confusion, and to avoid both daytime sedation and nighttime stimulation.

Adherence to medication therapy and prevention of medication error are considerable medical problems and are improved with measures to establish simplicity, reduce confusion, and increase convenience. The proposed use of a

multiplicity of dosage units as a regimen may be associated with dosage units being confused with each other, inadvertently switched, lost, misplaced, or ignored. Another problem associated with treatment using a plurality of dosage units is the lack of indicia which distinguish the dosage units from each other and signify and verify their use together and readily available instructions for coordinating the medications. Individuals are known to lose instructions issued separate from the medication. Haphazard selection and organization of medications can result in treatment failure and in the patient's requiring additional medical attention involving time, expense, and personnel costs and effort to instruct and organize therapy. Cost factors and outcomes are being carefully considered in the current medical climate. Improvements in organization and teaching including devices and methods which would help patients be more cognizant of their proper therapeutic requirements are considered desirable in view of limitations in time and costs for medical personnel. Successful therapy for rhinitis is less costly than unsuccessful treatment which eventuates in complications or multiple clinic visits.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to utilize decongestants and antihistamines in formulations so as to provide regimens for the treatment of rhinitis that avoid sedation during the day and that also avoid

stimulation at night. The terms "day" and "night" are intended to be synonymous with times when sedation is considered undesirable, such as when awake, and with times when stimulation is considered undesirable, such as bedtime, respectively, as well as literally daytime and nighttime, in that such times vary in accordance with the schedule of the individual.

It is another object to reduce confusion in the use of antihistamines and decongestants for the treatment of rhinitis.

The devising of such formulations and instructions for the use of such formulations requires pharmaceutical expertise and requires understanding of the actions, side effects, and pharmacokinetics of antihistamines, decongestants, and other formulated components, including components which effect the bioavailability of the active ingredients, as well as determination of the suitability of the components' use together. It is therefore another object of the present invention to provide a user with an expertly devised regimen.

It is a further object to provide a method and device for organizing, storing, and coordinating regimens for the treatment of rhinitis for the purpose of convenience in using such regimens by providing such regimens in a prepackaged container which incorporates coordinating indicia and instructions.

It is a further object to provide regimens which provide dosing of antihistamine in accordance with its kinetics so as to achieve histamine receptor binding in the morning hours, at the conventional time of awakening, which such scheduling is desired.

It is a further object to provide a user with an therapeutic combination of decongestant and antihistamine during the day, either by single nighttime dosing of sedating antihistamine which is suitable with respect to its half-life, duration of action, and duration of side effect, or by utilization of non-sedating antihistamine.

The present invention provides for a prefilled, unifying dispensing container containing at least two modules of different dosage units for the treatment of rhinitis, indicia for distinguishing the dosage units and signifying their use together, and coordinating instructions for their use. The container can have one of any number of forms, including, but not limited to, a box with the dosages in bottles, a blister package, a box of individual blister packages, or a box of pouches.

There are at least two different dosages combining to form a regimen for the treatment of rhinitis. The dosages are combinations of medications that include antihistamine and nasal decongestant. One dosage is for administration when sedation is not desired and the other is for administration when stimulation is not desired. There are a

number of possible combinations of decongestants and antihistamines presently available that can be employed in the present invention. Other medications, such as analgesics, may be incorporated into the dosages.

Other objects of the present invention will become apparent in light of the following drawings and detailed description of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the nature and object of the present invention, reference is made to the accompanying drawings, wherein:

Fig. 1 is a plan view of one embodiment of the present invention;

Fig. 2 is a top view of another embodiment of the present invention;

Fig. 3 is a plan view of a third embodiment of the present invention; and

Fig. 4 is a front view of a fourth embodiment of the present invention.

DETAILED DESCRIPTION

The present invention provides for a prefilled, unifying dispensing container containing at least two modules of different dosage units for the treatment of rhinitis, indicia for distinguishing the dosage units and signifying their use together, and coordinating instructions for their use. It is to be understood that either single or

multiple modules of each dosage unit are contained. The dosage units may be in the form of tablet, pill, capsule, caplet, powders, liquids, gels, some of which may require reconstituting, or any generally recognized oral form of medication.

Referring to the drawings, it will be understood that while preferred embodiments of the invention have been illustrated and described, the invention is not limited to such embodiments. Changes and additions may be made therein and thereto without departing from the spirit of the invention.

Embodiments of the unifying container are depicted in Figs. 1-4. Fig. 1 depicts a support package 10 containing multiple dosages of two different dosage units 12, 14 in tablet form 50 in blister packaging 52. Fig. 2 depicts a support package 20 which houses two modules in the form of bottles 22, 24 containing different dosage units, which can be in either liquid form or solid form. Fig. 3 depicts a support package 30 with a single dosage unit 32 for morning and a single different dosage unit 34 for night. Fig. 4 depicts a support package 40 which is manufactured to house a multiplicity of daytime modules in the form of pouches 42 and a multiplicity of nighttime modules in the form of pouches 44. In each of the four depicted configurations, the support package has specific provision for supporting the dosage units in physical accord with indicia 16, 26, 36,

46. The indicia manufactured with the support package distinguishes between the dosage units by means of wording, color, shape symbol, or other means known in the art. The indicia, by its presence, also indicates the suitability of the dosage units for use with each other. The support package incorporates coordinated administration instructions 18, 28, 38, 48 which also indicate the suitability of the dosage units for use with each other, and instruct coordination of the dosage units as a regimen.

Although the embodiments specifically described herein have two dosage modules, packaging containing other numbers of modules are also within the scope of this invention. The packaging may be adapted by widening the packaging and increasing the number of modules and indicia. Additionally, the packaging may be in any geometric configuration.

The packaging contains combinations of medications, which include nasal decongestants and antihistamines, that comprise a regimen for treating rhinitis. Specifically, the packaged medication is comprised of at least two dosage units, one for administration when sedation is not desired, as, for example, during the day, and one for administration when stimulation is not desired, as, for example, at night. The non-sedating dosage unit may be formulated to contain non-sedating antihistamine and/or decongestant, but not sedating antihistamine. The non-stimulating dosage unit may be formulated to contain sedating or non-sedating

antihistamine, but not stimulating nasal decongestant. The regimen is devised utilizing a combination of dosage units which are favorable for use with each other, particularly with regard to pharmacokinetic and therapeutic characteristics. It is possible to formulate these regimens with presently available dosage units as well as with newly formulated dosage units. Examples of regimens, some of which employ presently available dosage units, are described below.

Example 1: 120 mg pseudoephedrine hydrochloride (stimulating decongestant) and 5 mg loratidine (non-sedating antihistamine) to be taken in the morning, and 5 mg loratidine to be taken at bedtime. Limiting pseudoephedrine dosing to the day avoids stimulation and insomnia at night when stimulation is undesired. Use of the non-sedating antihistamine, loratidine avoids sedation during the day. Loratidine is known to have a long half-life, exerting an antihistamine effect 1 to 3 hours after dosing, reaching a maximum at 8 to 12 hours, and lasting in excess of 24 hours. An effective daytime combination of decongestant and antihistamine would result from the dosing of both decongestant and non-sedating antihistamine in the morning.

Example 2: 120 mg pseudoephedrine hydrochloride (stimulating decongestant) to be taken in the morning and 10 mg loratidine (non-sedating antihistamine) to be taken at bedtime. In this instance, loratidine is dosed at bedtime

and reaches a peak efficacy in the early morning hours, a time when symptoms typically peak. Although antihistamine is not dosed during the day, an effective daytime combination of decongestant and antihistamine results from the dosing of decongestant in the morning and loratidine at night because of the 24-hour duration of the antihistamine affect of loratidine.

Example 3: 120 mg pseudoephedrine sulfate (stimulating decongestant) and 60 mg of fexofenadine (non-sedating antihistamine) to be taken in the morning, and 60 mg of fexofenadine to be taken in the evening. Limitation of pseudoephedrine dosing to the day avoids stimulation and insomnia at night when stimulation is undesired. Use of the non-sedating antihistamine fexofenadine avoids daytime sedation. The 12-hour duration of fexofenadine requires a daytime dosing to achieve an effective daytime combination of antihistamine and decongestant. Bedtime dosing of fexofenadine anticipates early morning histamine release.

Example 4: 60 mg pseudoephedrine sulfate (stimulating decongestant) to be taken in the morning and afternoon, and 4 mg of chlorpheniramine (sedating antihistamine) to be taken at bedtime. Despite the traditional, and still current, indication for 4 to 6 hour dosing for chlorpheniramine, a single dose has more recently been is shown to inhibit the symptoms of rhinitis for more than 24 hours. Maximal sedation occurs approximately 3 to 4 hour

after dosing and sedation persists not longer than 6 to 8 hours following dosing. Notably, the short duration of sedation in relation to the longer duration of symptom suppression favors dosing of chlorpheniramine at bedtime as a way to anticipate peak morning histamine release, and effectively confer combined antihistamine and decongestant activity during the day without sedation and without dosing of sedating antihistamine during the day. The limiting of pseudoephedrine dosing to day avoids the potential for stimulation and insomnia at night.

Example 5: 35 mg phenylpropanolamine (stimulating decongestant) to be taken in the morning and late afternoon, and 4 mg of chlorpheniramine (sedating antihistamine) to be taken at bedtime. This regimen is essentially the same as that of Example 4, substituting the decongestant phenylpropanolamine for pseudoephedrine.

In addition to antihistamines and decongestants, other therapeutic ingredients for the treatment of rhinitis may be formulated if desired. For example, analgesics such as salicylates and acetophenamin may be considered for inclusion in such formulations and are within the scope of the present invention.

These examples do not constitute an exhaustive list of potential combinations, and variations and modifications may be made by those of ordinary skill in the art.

Other variations may occur to those skilled in the art which are within the scope of the invention as set forth in the appended claims. Those of skill in the art may also recognize modifications to these presently disclosed embodiments. These variations and modifications are meant to be covered by the spirit and scope of the present claims.

What is claimed is:

1. A therapeutic system for the symptomatic treatment of rhinitis comprising:

(a) two dosage units pharmaceutically devised for use with each other to comprise a single, coordinated treatment regimen, a first of said dosage units being non-sedating, a second of said dosage units being non-stimulating;

(b) one of said dosage units including antihistamine;

(c) the other of said dosage units including nasal decongestant;

(d) a pharmaceutical dispensing container prefilled with said dosage units, said container including indicia for distinguishing between said first dosage unit and said second dosage unit, and including coordinated administration instructions instructing the coordinated use of said dosage units according to said regimen such that said first dosage unit is for administration when sedation is not desired, and said second dosage unit is for administration when stimulation is not desired.

2. The therapeutic system of claim 1 wherein said antihistamine is non-sedating.

3. The therapeutic system of claim 1 wherein said antihistamine is sedating.

4. The therapeutic system of claim 1 wherein said antihistamine has a long half-life and is instructed for dosing at bedtime.

5. The therapeutic system of claim 1 wherein said antihistamine is sedating, has a long half-life, and is instructed for dosing at bedtime.

6. The therapeutic system of claim 1 wherein said antihistamine is non-sedating, and is instructed for dosing when stimulation is not desired and when sedation is not desired.

7. The therapeutic system of claim 1 wherein said antihistamine is chlorpheniramine.

8. The therapeutic system of claim 1 wherein said decongestant is pseudoephedrine.

9. The therapeutic system of claim 1 wherein said decongestant is phenylpropanolamine.

10. The therapeutic system of claim 1 wherein said dosage units are oral medications.

11. The therapeutic system of claim 1 wherein said container is a blister pack.

12. The therapeutic system of claim 1 wherein said container incorporates bottles containing liquid medications.

13. The therapeutic system of claim 1 wherein said container incorporates bottles containing solid medications.

14. The therapeutic system of claim 1 wherein said container incorporates multiple doses of each of said dosage units.

15. The therapeutic system of claim 1 wherein said container incorporates single doses of each dosage unit.

16. The therapeutic system of claim 1 wherein said indicia is incorporated with said container at the time of manufacture.

17. The therapeutic system of claim 1 wherein said instructions are incorporated with said container at the time of manufacture.

18. The therapeutic system of claim 1 wherein said regimen achieves both antihistamine and decongestant therapeutic effects when sedation is not desired.

19. A method for the symptomatic treatment rhinitis comprising the steps of:

(a) pharmaceutically devising two dosage units for use with each other to comprise a single, coordinated treatment regimen, a first of said dosages unit being non-sedating and a second of said dosage units being non-stimulating;

(b) including antihistamine in one of said dosage units;

(c) including nasal decongestant in the other of said dosage units;

(d) prefilling a pharmaceutical dispensing container with said dosage units;

(e) including in said container indicia for distinguishing between said first dosage unit and said second dosage unit; and

(f) including in said container coordinated administration instructions instructing the coordinated use of said dosage units according to said regimen such that said first dosage unit is for administration when sedation is not desired, and said second dosage unit is for administration when stimulation is not desired.

20. The therapeutic system of claim 19 wherein said antihistamine is non-sedating.

21. The therapeutic system of claim 19 wherein said antihistamine is sedating.

22. The therapeutic system of claim 19 wherein said antihistamine has a long half-life and is instructed for dosing at bedtime.

23. The therapeutic system of claim 19 wherein said antihistamine is sedating, has a long half-life, and is instructed for dosing at bedtime.

24. The therapeutic system of claim 19 wherein said antihistamine is non-sedating, and is instructed for dosing when stimulation is not desired and when sedation is not desired.

25. The therapeutic system of claim 19 wherein said antihistamine is chlorpheniramine.

26. The therapeutic system of claim 19 wherein said decongestant is pseudoephedrine.

27. The therapeutic system of claim 19 wherein said decongestant is phenylpropanolamine.

28. The therapeutic system of claim 19 wherein said dosage units are oral medications.

29. The therapeutic system of claim 19 wherein said container is a blister pack.

30. The therapeutic system of claim 19 wherein said container incorporates bottles containing liquid medications.

31. The therapeutic system of claim 19 wherein said container incorporates bottles containing solid medications.

32. The therapeutic system of claim 19 wherein said container incorporates multiple doses of each of said dosage units.

33. The therapeutic system of claim 19 wherein said container incorporates single doses of each dosage unit.

34. The method of claim 19 wherein said indicia is incorporated with said container at the time of manufacture.

35. The method of claim 19 wherein said instructions are incorporated with said container at the time of manufacture.

36. The therapeutic system of claim 19 wherein said regimen achieves both antihistamine and decongestant therapeutic effects when sedation is not desired.

ABSTRACT

A prefilled, unifying dispensing container of at least two different medication dosage units comprising a regimen for the treatment of rhinitis, indicia for distinguishing the dosage units, and coordinating instructions. The medications may be contained in bottles, blister packages, or pouches. Medications include antihistamine and nasal decongestant. One dosage is for administration when sedation is not desired and the other is for administration when stimulation is not desired.

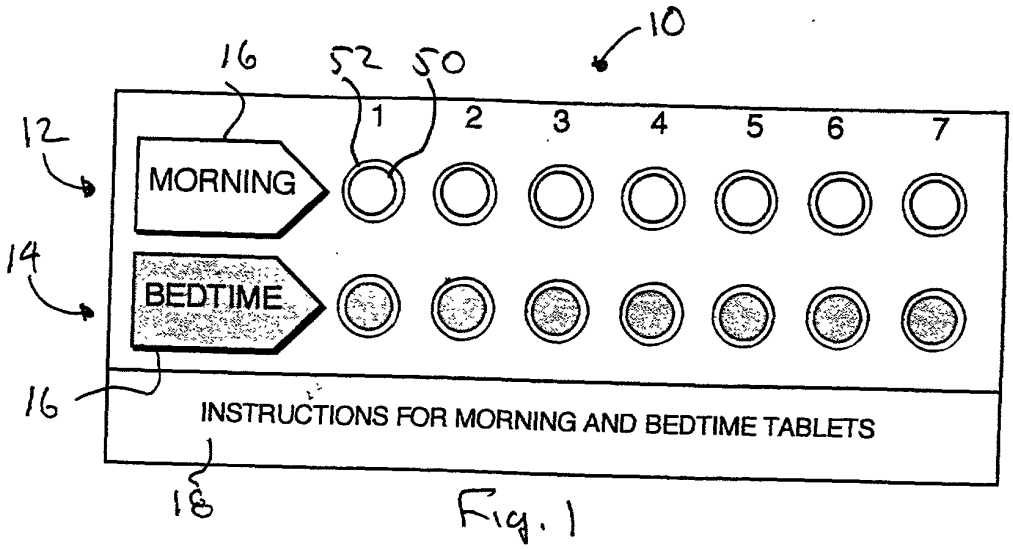

Fig. 1

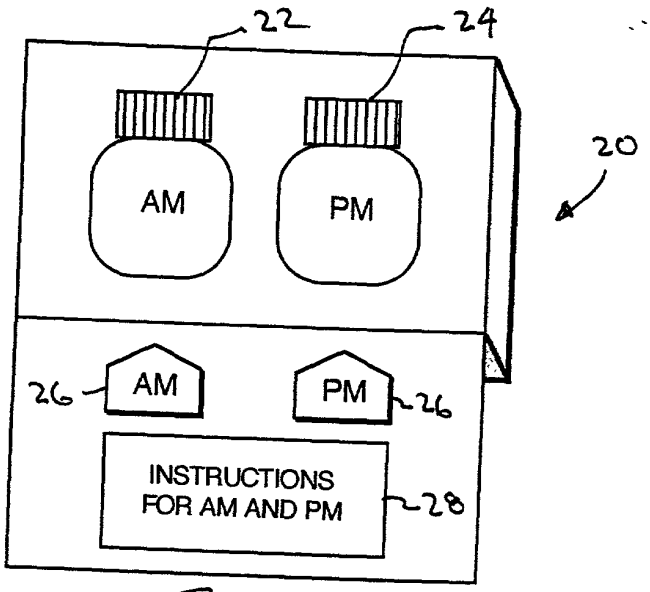

Fig. 2

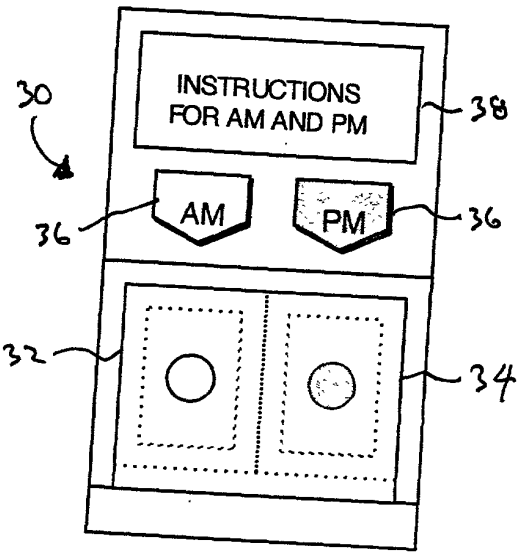

Fig. 3

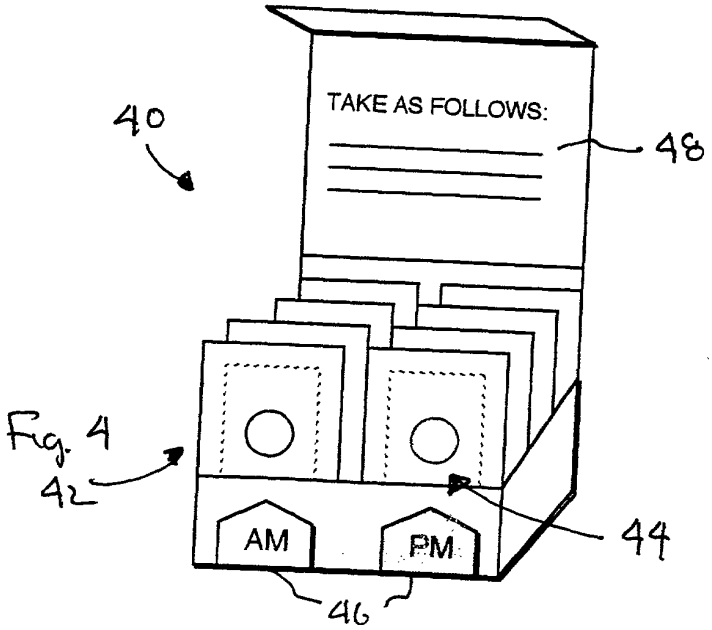

Fig. 4

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PTO/SB/01 (12-97)

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☒ Declaration Submitted with Initial Filing **OR** ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)) required)

Attorney Docket Number	WEINR40062
First Named Inventor	Weinstein
COMPLETE IF KNOWN	
Application Number	
Filing Date	
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

ANTIHISTAMINE/DECONGESTANT REGIMENS FOR TREATING RHINITIS

(Title of the Invention)

the specification of which

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) _____ as United States Application Number or PCT International Application Number _____ and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim fthe benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)	
60/063,710	10/29/1997	☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

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PTO/SB/01 (12-97)

DECLARATION - Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 356(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number *(if applicable)*

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: ☒ Customer Number 021587 → *Place Customer Number Bar Code Label here*

OR

☐ Registered practitioner(s) name/registration number listed below

Name	Registration Number	Name	Registration Number

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

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021587

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle [if any])	Family Name or Surname
Robert E.	Weinstein

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☒ Additional inventors are being named on the 1 supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.

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DECLARATION

ADDITIONAL INVENTOR(S) Supplemental Sheet
Page 1 of 1

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor						
Given Name (first and middle [if any])			Family Name or Surname				
Allan M.			Weinstein				
Inventor's Signature	Allan M. Weinstein					**Date**	10/26/98
Residence: City	Potomac	**State**	MD	**Country**	US	**Citizenship**	US
Post Office Address	9205 Pegasus Court						
Post Office Address							
City	Potomac	**State**	MD	**ZIP**	20854	**Country**	US

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor						
Given Name (first and middle [if any])			Family Name or Surname				
Inventor's Signature						**Date**	
Residence: City		**State**		**Country**		**Citizenship**	
Post Office Address							
Post Office Address							
City		**State**		**ZIP**		**Country**	

Name of Additional Joint Inventor, if any:	☐ A petition has been filed for this unsigned inventor						
Given Name (first and middle [if any])			Family Name or Surname				
Inventor's Signature						**Date**	
Residence: City		**State**		**Country**		**Citizenship**	
Post Office Address							
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City		**State**		**ZIP**		**Country**	

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